

Request for Expression of Interest (EOI)

Subject: Request for Expression of Interest (EOI) from Competent experts for evaluation of Geological Chapters of DPRs of Hydro-Electric Projects (HEPs) and Pumped Storage Project (PSPs) for CEA

1. Preamble

The **Central Electricity Authority (CEA)** is a statutory organization functioning under the **Ministry of Power, Government of India**. It plays a pivotal role in the development and regulation of the electricity sector in India. Established under the provisions of the **Electricity (Supply) Act, 1948**, and now governed by the **Electricity Act, 2003**, the CEA serves as the apex technical authority in the power sector. The CEA is responsible for planning, policy formulation, and technical evaluation to ensure the efficient and sustainable development of the electricity sector. Its major functions include **Advisory Role, Electricity Planning, Regulation and Standards, Data Collection and Analysis, Monitoring and Evaluation and Research and Development**

As per Section 8 (1) of the Electricity Act, 2003, any generating company intending to set up a hydro generating station shall prepare and submit to the Central Electricity Authority for its concurrence, a scheme estimated to involve a capital expenditure exceeding such sum (presently, ₹2500/- Crores), as may be fixed by the Central Government, from time to time, by notification for

- a. Projects included in NEP and confirm to capacity and types, and
- b. Site has been allocated through the transparent process of bidding in accordance with the guidelines issued by Central Government.

OR

Rs.1000/- crore for any other scheme not covered under (a) & (b).

Presently, the Detailed Project Reports (DPRs) for Hydro-Electric projects (HEPs) and Pumped Storage Projects (PSPs) are prepared through consultation procedure with the appraising agencies like CEA, CWC, GSI and CSMRS and the developer is required to submit following chapters for examination by these appraising agencies:

Sl. No.	Aspects
1.	General Layout
2.	Hydrological Aspects (design flood)
3.	Power Potential Aspects

4.	Foundation Engineering and Seismic Aspects
5.	Geological aspects
6.	Construction material aspects
7.	Inter-state matters (if required)
8.	Transmission System (up to Pooling point)
9.	Dam/Barrage Design
10.	Gates / HM Design
11.	Hydel Civil Design
12.	E&M Design
13.	Cost and financial analysis (if desired by developer)

Guidelines for Formulation of Detailed Project Reports for Hydro Electric Schemes (August 2022) and Guidelines for Formulation of Detailed Project Reports for Pumped Storage Schemes (July 2024) can be accessed on the CEA website for detailed procedure.

2. **Objective**

Now, the Central Electricity Authority (CEA) intends to evaluate DPR chapter on Geological aspects for HEPs and PSPs through competent experts in the subject domain.

Competent experts will evaluate geological chapters of DPRs and ensure the geological aspects of HEPs and PSPs. CEA shall concur DPRs of these HEPs and PSPs based on the evaluation done by the competent experts. The competent experts will get suitable payment towards evaluation of the DPR chapters.

The objective of this assignment is to:

- Get the chapters of DPR submitted by developers evaluated by competent experts.
- Cut short the time taken in evaluation /appraisal of chapters so as to expedite concurrence of DPR in a time bound manner.
- Timely concurrence of DPRs shall help in timely commissioning of the Projects in an accelerated mode and achieve the target of Energy Transition earlier than targeted schedule.

3. **Scope of work**

- i. To evaluate the chapters (geological aspects) submitted by developers, forwarded/recommended by CEA in compliance with set guidelines, procedure and standards.
- ii. To offer comments on documents submitted by developer. Seek additional information, if required to be submitted by developers.
- iii. Finally recommend for approval of documents along with executive summary to CEA.

- iv. To attend meetings with developer / CEA as when required.
- v. To also give undertaking that the said chapters have been examined as per the relevant guidelines/ procedure/standards.
- vi. Keep record for future reference and share as when required.

Applications are invited for Expression of Interest (Eoi) from competent experts that possess the expertise and capability to evaluate proposals for preparation of DPRs of HEPs and PSPs under the Survey & Investigation stage. Eligible competent experts should demonstrate substantial experience in evaluating HEPs/PSPs, specifically in geological and rock mechanics aspects.

Interested competent experts are requested to submit their Expression of Interest (Eoi) to the CEA in the prescribed format enclosed at **Annex-A**.

4. **Understanding & Familiarization**

Following understanding and familiarization with but not limited to various Indian Standards, guideline and procedure associated with general Geo-technical baseline reports is critical for the successful delivery of the Consultancy assignment:

- a) Surface Geological Investigations encompassing Regional geology, Stratigraphy, Petrography, Structural Geology, Seismotectonics, Remote Sensing, Geomorphology, Geological mapping and rockmass characterization of major civil structures like Dam/Barrage, Water Conductor System (including Head Race Tunnels, Pressure Shafts/Penstocks, Tail Race Tunnels, Surge Shafts), Powerhouse (Surface and Underground) and Reservoir.
- b) Subsurface Geological Investigations encompassing Drill Hole Logging, Drift Logging, Trenching/Pitting of major civil structures
- c) Relevant field experiences of carrying out above surface and subsurface geological activities in any HEPs/PSPs projects.
- d) Geophysical testing like Seismic Refraction/Reflection, Seismic Tomography, Resistivity Imaging/Survey, Ultrasonic Methods, Blast Vibration Monitoring, Multichannel Analysis of Surface Waves (MASW), Ground Penetrating Radar (GPR) etc.
- e) Empirical classification of rockmass (Qualitative and Quantitative)
- f) In-situ and Laboratory Rock Mechanic testing for determining Strength and Deformability parameters of rock and rockmass
- g) Instrumentation and Monitoring
- h) Use of geotechnical softwares for Numerical modelling
- i) Analysis for stability assessment of surface and subsurface civil structures using empirical and numerical methods
- j) Analysis and Interpretation of surface and subsurface geological problems

envisaged during construction stage based on the investigations in DPR stage

Apart from above the competent experts should also be familiar with Dam Safety Act 2021, USBR guidelines, ICOLD recommendations, Guidelines and practices of Geological Survey of India available in Public domain for successful delivery of the Consultancy assignment. Competent experts are therefore required to explore and study all possible documents that are relevant for the assignment and develop strong understanding and be familiar with the same.

5. **Deliverables**

Competent experts shall furnish following reports inter-alia covering all the aspects as detailed herein below:

- i. Initial Chapter submitted by developer: Detailed report on Chapter submitted by developer and sent by CEA. Comments and additional information required to be submitted by developer within 21 days of submission through email by CEA.
- ii. Comments of competent experts may be shared with CEA and developer. The developer shall submit the requisite document within 15 days to CEA and competent expert. The competent expert shall examine and approve the proposal within 30 days after mandatory site visit. If required, a meeting may be arranged with developer to sort out any unresolved issues. If developer is not submitting the information, the same may be brought in the knowledge of CEA.
- iii. Executive summary and detailed report may be submitted by competent experts. Competent experts may include a para on global practices in Hydro power sector specially in Hydro rich countries like Brazil, China, USA and Nordic area.
- iv. If required, competent experts shall discuss with CEA for clarification on any issue.
- v. The above scope of consultancy assignment broadly covers all the aspects, however, any item not specifically mentioned but required to complete the assignment shall be deemed to have been included in the scope of Work.

6. **Milestone/Time schedule**

The intent is to complete the process within 90 days.

7. **Procedure of application:**

Accordingly, applications are invited from Competent Experts. The willing Competent Experts may email their applications **latest by 15.10.2025** to:-

Shri Balwan Kumar, Director (HPP&I)
Room No. 721 (N), CEA, Sewa Bhawan, RK Puram,
New Delhi-110066
Email: cea-hppi@gov.in
Contact: 011-2673-2748

8. **Term of Empanelment**

The term of empanelment shall ordinarily be for an initial period of Two years, which is extendable based on performance of the competent expert.

9. **Fee**

The Expert will be paid fee for the work, Project wise. The fee so fixed for a Project shall remain unchanged during the term of empanelment.

10. **Qualification and Experience**

Competent experts in the subject field may participate. Minimum eligible educational qualification of the competent experts shall be M.Sc. (Geology/Applied Geology). Retired professionals from GSI, Central Govt/CPSUs, State Govt/State PSUs shall be preferred. Competent experts must have relevant site experience of carrying out geotechnical field work in at least three hydel/PSP projects. CEA reserves the right to shortlist the candidates based on higher qualification and/or experience.

11. **Procedure for Empanelment**

- a. A circular/advertisement is uploaded on the website of the CEA (<https://cea.nic.in/?lang=en>) inviting applications from willing Competent experts for engagement as consultants.
- b. CEA shall first shortlist the applications on the basis of the criteria decided by it. Thereafter, the CEA may hold an interaction with the competent experts, if required.

12. **Confidentiality of Data and Documents**

The intellectual property rights (IPR) of the data collected as well as deliverables produced for CEA shall remain with CEA. No one shall utilize or publish or disclose or part with, to a third party, any part of the data or statistics or proceedings or information collected for the purpose of his assignment or during the course of assignment for the CEA without the express written consent of the CEA. Competent

experts shall be bound to hand over the entire set of records of assignment to the CEA before the expiry of the contract and before the final payment is released by the Department.

13. **Conflict of Interest**

Competent experts empanelled by the CEA shall in no case represent or give opinion or advice to any other person in any matter which is adverse to the interest of the CEA nor will it indulge in any activity outside the terms of the contractual assignment.

14. **Termination of Engagement**

The CEA reserves the right to terminate the engagement forthwith in following conditions:

- i. The Consultant is unable to address the assigned work;
- ii. Quality of the work is not found to the satisfaction of the CEA;
- iii. The Consultant fails in timely achievement of the milestones as decided by the CEA; and
- iv. The Consultant is found lacking in honesty and integrity.

Note: CEA reserves the right to terminate the engagement, by serving thirty (30) days' written notice on competent experts. Termination shall come into effect on the day right after the completion of thirty (30) days of delivery of such notice. Competent expert may, without prejudice to his/her other rights terminate his/her service by notice of 60 days to CEA. The notice shall take effect when received by them both. Any such notice shall be final and binding on the competent experts and CEA.

Annexure-A

PROFORMA

Application for appointment of Consultant in CEA

1.	Name of Competent expert in full (Block Letters)				
2.	Complete Address with Pin Code				
3.	Telephone/Mobile No./ E-mail IDs				
4.	Educational Qualifications				
5.	Professional Experience				
6.	Areas of Expertise (Geological aspects)				
7.	<u>Experience in Large Hydro/PSP Projects</u> Number of Hydro/PSP Projects evaluated during last 10 years: Details of Hydro/PSP Projects Evaluated:				
8.	<u>Competence in Relevant Areas</u> Details thereof:				
9.	Number of assignments completed and details of Organizations served with similar nature of work for large Hydro Projects	Sr No	From	To	Nature of work performed
10.	Present engagement with any Organizations (Government/Private/Autonomous) as Consultant/ advisor				

Note: Detailed bio-data and any additional information in support of suitability for the said engagement. Attach separate sheets, if necessary.

Date:

Name & Signature of the Competent experts